

REMARKS

At the outset, Applicant acknowledges with appreciation Examiner Rekstad's courtesy in conducting the June 12, 2006 telephonic interview. During the interview, Applicant's representatives and Examiner Rekstad discussed proposed claim amendments that would overcome the current rejections of claims 1-14 under 35 U.S.C. § 103(a), however the amendments will require a new search. Accordingly, a Request for Continued Examination is filed concurrently with this amendment.

Claims 1, 7, 10 and 14 have been amended. Claim 15 has been added. No new matter has been added. Claims 1-15 are currently pending in this application. Applicant reserves the right to pursue the original and other claims in this and other applications.

Claims 1, 2, 4 and 5 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Nonomura et al. (U.S. Patent No. 6,219,030) ("Nonomura") in view of Washino et al. (U.S. Patent No. 5,625,410) ("Washino"). Reconsideration is respectfully requested.

Claim 1, as amended, recites a "method of compressing and processing for multi-screens a plurality of digital video signals on respective channels by multi-thread scaling, which uses a single integrated analog/digital converter for each channel." The method comprises "outputting scaled digital video signals from analog/digital converters having a first resolution for compression or having a second resolution for a multi-screen process depending on even/odd fields of input video signals" and "storing and compressing the scaled digital video signals of the first resolution, or storing and processing for multi-screens the scaled digital video signals of the second resolution."

Nonomura relates to a video data processing device which is suitable for displaying images or character information contained in video signals on a display device. Nonomura does not disclose or suggest a “method of compressing and processing for multi-screens a plurality of digital video signals on respective channels by multi-thread scaling, which uses a single integrated analog/digital converter for each channel” comprising, *inter alia*, “outputting scaled digital video signals from analog/digital converters.”

Washino relates to a video monitoring system employing a means for digitizing camera images for display. Washino is relied upon to disclose multiple video sources and does not disclose or suggest “outputting scaled digital video signals from analog/digital converters” to remedy the deficiencies of Nonomura.

Accordingly, claim 1 is allowable over the cited combination. Claims 2, 4 and 5 depend from claim 1 and are allowable as well. Applicant respectfully requests the rejection as to claims 1, 2, 4 and 5 be withdrawn.

Claim 3 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Nonomura in view of Washino as applied to claim 1, and in further view of Andrew et al. (U.S. Patent No. 5,881,205) (“Andrew”). Reconsideration is respectfully requested.

Claim 3 depends from claim 1, which is allowable over Nonomura in view of Washino, for at least the reasons discussed above. Andrew is relied upon to teach the use of a display with the resolution of 352x240. Andrew does not remedy the deficiencies of Nonomura and Washino as to claim 1. Accordingly, claim 1, and therefore claim 3, is allowable over the cited combination. Applicant respectfully requests the rejection as to claim 3 be withdrawn.

Claim 6 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Nonomura in view of Washino as applied to claim 1, and in further view of Sato et al. (U.S. Patent No. 5,648,792) ("Sato"). Reconsideration is respectfully requested.

Claim 6 depends from claim 1, which is allowable over Nonomura in view of Washino, for at least the reasons discussed above. Sato is relied upon to teach the use of a display with the resolution of 720x480. Sato does not remedy the deficiencies of Nonomura and Washino as to claim 1. Accordingly, claim 1, and therefore claim 6, is allowable over the cited combination. Applicant respectfully requests the rejection as to claim 6 be withdrawn.

Claims 7, 10-12 and 14 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Nonomura in view of Washino in view of Ng et al. (U.S. Patent No. 5,185,819) ("Ng"). Reconsideration is respectfully requested.

Claim 7, as amended, recites a "device for compression and multi-screen processing of digital video signals by multi-thread scaling" comprising "multi-channel analog/digital converters for receiving input video signals, for generating even/odd field indicators based on input video signals, and for converting the input video signals to digital video signals and scaling the digital video signals to have a first resolution for compression or to have a second resolution for a multi-screen process based on the even/odd field indicators, without storing the input video signals," "a compression FIFO for storing video signals scaled to have the first resolution outputted from the multi-channel analog/digital converters," "a multi-screen FIFO for storing video signals scaled to have the second resolution outputted from the multi-channel analog/digital converters," "a CPU for initializing the multi-channel analog/digital converters, the compression FIFO, and the multi-screen FIFO, and for compressing the video signals stored in the compression FIFO," and "a video processor for processing and

transmitting an output of the multi-screen FIFO to the video memory according to a pre-determined rule for the multi-screen process," wherein "the multi-channel analog/digital converters, the compression FIFO, the multi-screen FIFO, the CPU and the video processor are integrated on a single board."

Claim 10, as amended, recites a "method of compressing and processing digital video signals on respective channels by multi-thread scaling." The method comprises "receiving input video signals," "converting the input video signals to digital signals," "generating an indicator signal indicating whether the field corresponding to each of the input video signals is a first type field or a second type field," "scaling the digital signals having a first type field indicator signal to have a first resolution for compression and scaling the digital signals having a second type field indicator signal to have a second resolution for multi-screen processing," "storing the scaled digital signals for compression in at least one compression FIFO, and storing the scaled digital signals for multi-screen processing in at least one multi-screen FIFO," "compressing an output of the compression FIFO," and "processing an output of the multi-screen FIFO according to a pre-determined rule for the multi-screen processing." The converting, generating and scaling steps occur "within a plurality of integrated analog/digital converters, each analog/digital converter corresponding to a channel."

Claim 14, as amended, recites a "method of compressing and processing for multi-screens a digital video signal on a channel by multi-thread scaling, which uses a single integrated analog/digital converter." The method comprises "outputting a scaled digital video signal from the analog/digital converter having a first resolution for compression or having a second resolution for a multi-screen process depending on the even/odd fields of the input video signal" and "storing and compressing the scaled digital video signal of the first resolution, or storing and processing for multi-screens the scaled digital video signal of the second resolution."

Nonomura and Washino do not disclose the analog/digital converters, compression FIFO, multi-screen FIFO, CPU and processor being integrated on a single board, as is required by claim 7. In Nonomura and Washino, a shared bus is used; there is a traffic limitation in transferring the data that is eliminated by the invention's use of a single board. Ng relates to an apparatus for compressing and decompressing video data for recording or transmission. Ng is relied upon to disclose the use of field indicators and does not disclose the use of a single integrated board. Accordingly, Ng does not remedy the deficiencies of Nonomura and Washino as to claim 7.

Additionally, as discussed above, the combination of Nonomura and Washino does not disclose scaling the digital signals within the analog/digital converter, as recited in claims 10 and 14. Ng relates to an apparatus for compressing and decompressing video data for recording or transmission. Ng is relied upon to disclose the use of field indicators and does not disclose scaling the digital signals within the analog/digital converter. Accordingly, Ng does not remedy the deficiencies of Nonomura and Washino as to claims 10 and 14.

Accordingly, claims 7, 10 and 14 are allowable over the cited combination. Claims 11 and 12 depend from claim 10 and are allowable as well. Applicant respectfully requests the rejection as to claims 7, 10-12 and 14 be withdrawn.

Claims 8 and 9 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Nonomura, Washino and Ng as applied to claim 7, and in further view of Andrew and Sato. Reconsideration is respectfully requested.

Claims 8 and 9 depend from claim 7, which is allowable over Nonomura, Washino and Ng for at least the reasons discussed above. Andrew is relied upon to teach the use of a display with the resolution of 352x240. Sato is relied upon to teach

the use of a display with the resolution of 720x480. Neither Andrew nor Sato remedies the deficiencies of Nonomura, Washino and Ng as to claim 7. Accordingly, claim 7, and therefore claims 8 and 9, is allowable over the cited combination. Applicant respectfully requests the rejection as to claims 8 and 9 be withdrawn.

Claim 13 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Nonomura, Washino and Ng as applied to claim 10, and in further view of Andrew and Sato. Reconsideration is respectfully requested.

Claim 13 depends from claim 10, which is allowable over Nonomura, Washino and Ng for at least the reasons discussed above. Andrew is relied upon to teach the use of a display with the resolution of 352x240. Sato is relied upon to teach the use of a display with the resolution of 720x480. Neither Andrew nor Sato remedies the deficiencies of Nonomura, Washino and Ng as to claim 10. Accordingly, claim 10, and therefore claim 13, is allowable over the cited combination. Applicant respectfully requests the rejection as to claim 13 be withdrawn.

New claim 15 depends from claim 7 and is allowable for at least the reasons discussed above with relation to claim 7. Additionally, in the cited references, the devices are PC based whereas in new claim 15, the device is non-PC based.

In view of the above amendment, Applicant believes the pending application is in condition for allowance.

Dated: June 20, 2006

Respectfully submitted,

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